PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 :
C07C 69/003, 69/007, 69/02, 69/675, 69/608, 69/704, 69/74, 69/75, 69/757, 233/46, 305/08, 305/10, C07F 9/08, A61K 31/22, 31/23, 31/66, 31/20, 31/70, 31/72, A61P 31/12, 31/18, 31/22

A1

(11) International Publication Number: **WO 00/37421**

(43) International Publication Date: 29 June 2000 (29.06.00)

(21) International Application Number: PCT/AU99/01157

(22) International Filing Date: 21 December 1999 (21.12.99)

(30) Priority Data:
PP 7849 21 December 1998 (21.12.98) AU

(71)(72) Applicant and Inventor: GHADIMINEJAD, Iraj [GB/AU]; 73 Tamboura Avenue, Baulkham Hills, NSW 2153 (AU).

(74) Agent: F B RICE & CO; PO Box 668, Carlton South, 139 Rathdowne Street, Carlton, VIC 3053 (AU).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: NEPHRONIN: A SERIES OF COMPOUNDS FOR TREATMENT OF INFECTIOUS DISEASES AND CANCER

$$\begin{array}{l} CH_2\text{-}(CH_2)_l\text{-}COO^- \\ \quad | \\ X\text{-}C\text{-}(CH_2)_m\text{-}COO^- \\ \quad | \\ CH_2\text{-}(CH_2)_n\text{-}COO^- \end{array} \qquad (I)$$

(57) Abstract

The present invention provides a non–proteinaceous compound isolatable from the urine of patients suffering from steroid responsive nephrotic syndrome. The compound has the following characterising features; (i) a molecular weight less than 1 KDa; (ii) binds specifically to heparin and heparan sulphate but not other glycosaminoglycans; and (iii) inhibits LPS induced production of TNF–α and/or IL–1α. The present invention also provides a compound of general formula: (I) in which l, m and n may be the same or different and integers of 0 to 10; and X is R–CO–O–, R–O–PO_2–O–, R–O–SO_2–O–, R–CO–NH–, R–CO–, R–O– or monosaccharide or oligosaccharide including amide substituted saccharides; in which R is a saturated, unsaturated, branched or cyclic carbon chain of up to 32 carbon atoms which optionally contains one or more hydroxyl groups, carbonyl groups, carboxylic acids groups, amino groups, phosphate groups or sulphate groups or combination thereof; and pharmaceutically acceptable salts and derivatives thereof.